

SEQUENCE LISTING

<110> Godfroi, Edmond  
Bollen, Alex  
Leboulle, Gerard

<120> IDENTIFICATION AND MOLECULAR CHARACERIZATION OF  
PROTEINS, EXPRESSED IN THE IXODES RICINUS SALIVARY  
GLANDS

<130> VANM229.001CP1

<140>  
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<150> PCT/BE00/00061  
<151> 2000-06-06

<150> GB 9913425.6  
<151> 1999-06-09

<160> 34

<170> FastSEQ for Windows Version 3.0

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tcgacgttagc tcctgactag aaactcgctcg gctaggacag aactttctt caggtttagc 180  
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tcgaaatgc acttcccggt cttgtcgat ttccggccaa aagcgcatgg cattccttcc 180  
ggcagattaa ctttttcaaa ttacgggttc tgaaccaata atagatcgtag gcaatgttg 240  
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tggcgccgaa ctgtgaaaaaa caaattaagg ctncttgcataa acgcttag tcttggtagc 360  
ccgttagagg tcgatgtcgc gcctcgcat tgcaaagtca cttgcactta tcaagctcct 420  
ggagaaaaat gggtgcaacg gggggatcag cgtttgtact tgcaaacatt tgtggagacg 480  
gtaaaccwgt attcgcggaa actcagatgc tccagcgtga agctcgttca aataaaagtt 540

gtaaaattcga gtatngatga agaactgaaa ttcgaggcat ttagaaacac cacgagaagc 600  
agcgaa 607

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cataagttaa accctgtcat tataagtgtg attgccgtat ctcggctgaa tgggttccat 180  
ttttctctta aataatcacg tgtccatatt ccatgtattt tggtcatgag tatgtgattc 240  
tcatcgtata tcttcgcct 259

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tgcattgccc ttgacgtact ctctcaacgt tgccaaggac tcaggcccatt aaatgttagtg 120  
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tcaaaatATC cgTTccCTGA agatgaggaa attacactga taatgacagg gtttgattta 180  
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gta gac aca gcc aac cac aaa ggt aga ggg cgg cct gcg aag tgt aaa 96  
Val Asp Thr Ala Asn His Lys Gly Arg Gly Arg Pro Ala Lys Cys Lys  
20 25 30

ctt cct ccg gac gac gga cca tgc aga gca cga att ccg agt tac tac 144  
Leu Pro Pro Asp Asp Gly Pro Cys Arg Ala Arg Ile Pro Ser Tyr Tyr  
35 40 45

ttt gat aga aaa acc aaa acg tgc aag gag ttt atg tat ggc gga tgc 192  
Phe Asp Arg Lys Thr Lys Cys Lys Glu Phe Met Tyr Gly Gly Cys  
50 55 60

gaa gga aac gaa aac aat ttt gaa aac ata act acg tgc caa gag gaa 240  
Glu Gly Asn Glu Asn Asn Phe Glu Asn Ile Thr Thr Cys Gln Glu Glu  
65 70 75 80

tgc aga gca aaa aaa gtc tag 261  
Cys Arg Ala Lys Lys Val  
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Val Asp Thr Ala Asn His Lys Gly Arg Gly Arg Pro Ala Lys Cys Lys  
20 25 30

Leu Pro Pro Asp Asp Gly Pro Cys Arg Ala Arg Ile Pro Ser Tyr Tyr  
35 40 45

Phe Asp Arg Lys Thr Lys Thr Cys Lys Glu Phe Met Tyr Gly Gly Cys  
50 55 60

Glu Gly Asn Glu Asn Asn Phe Glu Asn Ile Thr Thr Cys Gln Glu Glu  
65 70 75 80

Cys Arg Ala Lys Lys Val  
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<211> 292  
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atcttccaca gcgcttgcg cacgcctcct gggaatagaa cgcttctct cctccgcac 180  
tccatttggaa atcataaaaa catcttcag tttgaatatt gtagcgataa taatcggtat 240  
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atctcacgga tggatgtgtg acactttat atctcagggtt tgccgacatt gccattacag 180  
ataaaatagtt gataatttct ttcttggat agttgtaaagc agcgcattgtt gttgcataa 240  
gcaccacatg cacttcaggc aatatggttt 270

<210> 11  
<211> 316  
<212> DNA  
<213> Ixodes ricinus

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acgccaatag gggttctcgc aaagaacata tcattttggag gaaggcgtag tccgtcgaga 180  
tatccccaaa ctagggtttc attgcgtgcg aaccaactgc ccccacttct gtatgtgtac 240  
tgtaaggagt rgttgaacgg ygtcctttt cccataacct tgaagtttc acactgcaga 300  
ggattacctc tcaaaa 316

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<211> 241  
<212> DNA  
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cattcctcac cgtatacccg tcataccacg tcaatttgtt tacaaggcag ataatgtcaa 120  
aatggctctg gtccctataa tagtcggata atgtagaat cgctccatgt ggc当地atag 180  
atgttcctct ttcataactgt tttaacttta attgttaggtc cgccctcggttc tcgaggtatg 240  
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ccacccagtt tgaaaagtgc aagaacgcaca gtggtttacc gtaacaagta caccagagtt 180  
cctgtaaatt ttaccgtcg a gttgccatg ctgattgata agtatttata cwaggagttc 240  
aagaacgaga gccacatcg accgtacctg gctatgatac tgactttgat aaatctgagg 300  
tatgccgaca cacatgaccc gtacatccag tttcttctca cacaagtgtt cgtggggaw 360  
wctggcgatc atatgggcca catgcccttc cgacgacgt tcttgttca ggcgcggcat 420  
tatgcgcagt tttaggccc aa tmacaccttc cacttgcata tctccgtt tggatagtgt 480  
aagtggggcc attgcatcag catcggtgaa gargcctcc tccaagttagg aaccgccccat 540  
tttaggttgc ttcccaatc cgccaaattt aantttaaaa aaaattcccc ccccaaaaat 600  
taatttttt taaaggtgaa ttgtgatttc tccgtt 636

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<212> DNA  
<213> Ixodes ricinus

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accacttcaa attttctccc tgctgtgttag aatcaattcg attcgtcgca cgagagcggg 120  
actgcctcta caaatgtcaat gccaaggatg ctgtaaaaag cctaataatct ctgcccggat 180  
ttaggatatc gccaacacgt ttctgtcaat ttatgcattcc gctttaccgc ggtgtccata 240  
gcgataagaa agcaggtctg tccgattgcg tacagacgtg tagaacggcc aaaaatcgac 300  
gaggaggcta ccattcatgg attcacgcg cacttgacgg ggttccttgc gacaagagaa 360  
accccaagaa ggcctgcata aacgggaaat gcaccctcct taagagcatg ccccacagaa 420  
cgtaccggga at 432

<210> 15  
<211> 466  
<212> DNA  
<213> Ixodes ricinus

<400> 15

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ccaaatctgg cataggttga aytgcgaatg cgtggcgcag caggccctycc acattcactc 120  
catcctcgat ttttaggatg actgcccaca tttgtttgtt atcggtgtac aggtgtttgt 180  
tatggtccga gccgtcgaca taagtattga ccaacgatcg gccgaatgat tacggctcac 240  
caaacacatc aaatacccccc gtcaagtcaa gagctggaaag cacaaggat agtatgtaca 300  
agataccctt ggaaatcttt cccgaagtcc accttgcgtt ggacagcaca tttgccaaag 360  
cttttaattt tgacgtgtac aaagtaacgc gttacttcgc agtgcttaca aatgcggcta 420  
atcttaggtt tgccagttc gtatttccaa aagtacagct caggat 466

<210> 16  
<211> 377  
<212> DNA  
<213> Ixodes ricinus

<400> 16

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 tacactgagt ctccaataaaa tatgttttcc ggtgcaattt accttgcaagt ctttgacgcc 120  
 gtatgttaggg tcagcgtgca tgcccttcgtc gtacatatac acccctctgac agtagttgct 180  
 cagttgtgc atcctaccag gaagcttaga cgaacgtttt attgtttttc tcgtgtatcg 240  
 ttctctaagg catttgaatt ccggacgggtt gtagaggttc ctgacttctc gctggcagca 300  
 ataagagaac tgatactggc gctcgcttg catcttgtaa ctcatgaggt atccgtcatc 360  
 ccatggcag tccgcag 377

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 <212> DNA  
 <213> Ixodes ricinus

<220>  
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 <222> (54)..(1517)

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tcg gga ctc agc ctg aaa ttg tgg att gta gcg ttc ttt tct ttc tgc 104  
 Ser Gly Leu Ser Leu Lys Leu Trp Ile Val Ala Phe Phe Ser Phe Cys  
 5 10 15

ttg gcc gag aaa gag cat ggg atc gtg tac ccc agg atg ctt gaa agc 152  
 Leu Ala Glu Lys Glu His Gly Ile Val Tyr Pro Arg Met Leu Glu Ser  
 20 25 30

aga gca gca act gga gag aga atg ctt aaa atc aac gat gac ctg acg 200  
 Arg Ala Ala Thr Gly Glu Arg Met Leu Lys Ile Asn Asp Asp Leu Thr  
 35 40 45

ttg acg ctg cag aag agt aag gtc ttc gct gac gac ttt ctc ttc acg 248  
 Leu Thr Leu Gln Lys Ser Lys Val Phe Ala Asp Asp Phe Leu Phe Ser  
 50 55 60 65

acg acc gac gga att gaa cct att gat tac tac atc aaa gcc gaa gac 296  
 Thr Thr Asp Gly Ile Glu Pro Ile Asp Tyr Tyr Ile Lys Ala Glu Asp  
 70 75 80

gct gaa cgt gac atc tac cac gac gca act cac atg gca tca gta agg 344  
 Ala Glu Arg Asp Ile Tyr His Asp Ala Thr His Met Ala Ser Val Arg  
 85 90 95

gta acg gac gat gat ggc gtg gaa gtg gaa gga att ctt gga gag agg 392  
 Val Thr Asp Asp Asp Gly Val Glu Val Glu Gly Ile Leu Gly Glu Arg  
 100 105 110

ctt cgt gtt aaa cct ttg ccg gca atg gcc cgc agc agc gat ggc ctc 440  
 Leu Arg Val Lys Pro Leu Pro Ala Met Ala Arg Ser Ser Asp Gly Leu  
 115 120 125

aga ccg cat atg ttg tac gaa gtc gac gca cac gaa aac ggc cgg cca 488  
 Arg Pro His Met Leu Tyr Glu Val Asp Ala His Glu Asn Gly Arg Pro

130	135	140	145	
cat gat tat ggt tca ccg aac aca aca aat acc ccc gta gag aga aga				536
His Asp Tyr Gly Ser Pro Asn Thr Thr Asn Thr Pro Val Glu Arg Arg				
150	155	160		
gct gga ggc aca gaa ccc cag atg tac aag ata cca gcg gaa atc tat				584
Ala Gly Gly Thr Glu Pro Gln Met Tyr Lys Ile Pro Ala Glu Ile Tyr				
165	170	175		
ccc gaa gtt tac ctt gtg gcg gat agt gcc ttt gcc aaa gaa ttt aac				632
Pro Glu Val Tyr Leu Val Ala Asp Ser Ala Phe Ala Lys Glu Phe Asn				
180	185	190		
ttt gat gtg aac gcc gtt acg cgt tac ttc gca gtg ctt aca aat gcg				680
Phe Asp Val Asn Ala Val Thr Arg Tyr Phe Ala Val Leu Thr Asn Ala				
195	200	205		
gct aat ctt agg tat gaa agc ttc aaa tct cca aag gta cag ctc agg				728
Ala Asn Leu Arg Tyr Glu Ser Phe Lys Ser Pro Lys Val Gln Leu Arg				
210	215	220	225	
atc gtt ggc ata acg atg aac aaa aac cca gca gac gag cca tac att				776
Ile Val Gly Ile Thr Met Asn Lys Asn Pro Ala Asp Glu Pro Tyr Ile				
230	235	240		
cac aat ata cgg gga tat gag cag tac cgg aat att ttg ttt aag gaa				824
His Asn Ile Arg Gly Tyr Glu Gln Tyr Arg Asn Ile Leu Phe Lys Glu				
245	250	255		
aca ctg gag gat ttc aac act cag atg aag tca aaa cat ttt tat cgt				872
Thr Leu Glu Asp Phe Asn Thr Gln Met Lys Ser Lys His Phe Tyr Arg				
260	265	270		
act gcc gat atc gtg ttt ctc gtg aca gca aaa aat atg tcc gaa tgg				920
Thr Ala Asp Ile Val Phe Leu Val Thr Ala Lys Asn Met Ser Glu Trp				
275	280	285		
gtt ggt agc aca cta caa tca tgg act ggc ggg tac gct tac gta gga				968
Val Gly Ser Thr Leu Gln Ser Trp Thr Gly Gly Tyr Ala Tyr Val Gly				
290	295	300	305	
aca gcg tgt tcc gaa tgg aaa gta gga atg tgt gaa gac cga ccg aca				1016
Thr Ala Cys Ser Glu Trp Lys Val Gly Met Cys Glu Asp Arg Pro Thr				
310	315	320		
agc tat tac gga gct tac gtt ttc gcc cat gag ctg gcg cat aat ttg				1064
Ser Tyr Tyr Gly Ala Tyr Val Phe Ala His Glu Leu Ala His Asn Leu				
325	330	335		
ggt tgt caa cac gat gga gat ggt gcc aat agc tgg gtg aaa ggg cac				1112
Gly Cys Gln His Asp Gly Asp Gly Ala Asn Ser Trp Val Lys Gly His				
340	345	350		
atc gga tct gcg gac tgc cca tgg gat gac gga tac ctt atg agc tac				1160
Ile Gly Ser Ala Asp Cys Pro Trp Asp Asp Gly Tyr Leu Met Ser Tyr				
355	360	365		

aag atg gaa gac gag cgc cag tat aag ttt tct ccc tac tgc cag aga		1208
Lys Met Glu Asp Glu Arg Gln Tyr Lys Phe Ser Pro Tyr Cys Gln Arg		
370 375	380	385
gaa gtc agg aac ctc tac agg cgt ccg gaa ttc aaa tgc ctc act gaa		1256
Glu Val Arg Asn Leu Tyr Arg Arg Pro Glu Phe Lys Cys Leu Thr Glu		
390	395	400
cga aaa gcg aaa aaa aca atc cgc tcg tct aag cta cct ggt gtg atg		1304
Arg Lys Ala Lys Lys Thr Ile Arg Ser Ser Lys Leu Pro Gly Val Met		
405	410	415
aca tca tcg agc aac tat tgc cg <sup>g</sup> agg gtg tac atg tac gaa aaa ggc		1352
Thr Ser Ser Asn Tyr Cys Arg Arg Val Tyr Met Tyr Glu Lys Gly		
420	425	430
atg cac gcc gac gag gca tat ggc gtc aag gac tgc agg gta aaa tgc		1400
Met His Ala Asp Glu Ala Tyr Gly Val Lys Asp Cys Arg Val Lys Cys		
435	440	445
acc acc aca tca aga atg tat tgg cta ctc ggt gta gtc gac ggt aca		1448
Thr Thr Ser Arg Met Tyr Trp Leu Leu Gly Val Val Asp Gly Thr		
450	455	460
cct tgc gga aat gga aag gct tgc att ctt ggg aaa tgc agg aac aaa		1496
Pro Cys Gly Asn Gly Lys Ala Cys Ile Leu Gly Lys Cys Arg Asn Lys		
470	475	480
atc aaa ata agc aag aag gac tgagagg <sup>tt</sup> g ataatatcaa attaatcatg		1547
Ile Lys Ile Ser Lys Lys Asp		
485		
atatttcaac cacatgactt cgtgctcaac tggtagcccc aaataaaattt taaaaaaaaat		1607
cccaatatgc gtggtagaaa aagcagcaaa caataaaact tctaaaaatg tcttgcaaaa		1667
atg		1670

<210> 18  
<211> 488  
<212> PRT  
<213> Ixodes ricinus

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Ser Arg Ala Ala Thr Gly Glu Arg Met Leu Lys Ile Asn Asp Asp Leu		
35 40 45		
Thr Leu Thr Leu Gln Lys Ser Lys Val Phe Ala Asp Asp Phe Leu Phe		
50 55 60		

Ser Thr Thr Asp Gly Ile Glu Pro Ile Asp Tyr Tyr Ile Lys Ala Glu  
65 70 75 80

Asp Ala Glu Arg Asp Ile Tyr His Asp Ala Thr His Met Ala Ser Val  
85 90 95

Arg Val Thr Asp Asp Asp Gly Val Glu Val Glu Gly Ile Leu Gly Glu  
100 105 110

Arg Leu Arg Val Lys Pro Leu Pro Ala Met Ala Arg Ser Ser Asp Gly  
115 120 125

Leu Arg Pro His Met Leu Tyr Glu Val Asp Ala His Glu Asn Gly Arg  
130 135 140

Pro His Asp Tyr Gly Ser Pro Asn Thr Thr Asn Thr Pro Val Glu Arg  
145 150 155 160

Arg Ala Gly Gly Thr Glu Pro Gln Met Tyr Lys Ile Pro Ala Glu Ile  
165 170 175

Tyr Pro Glu Val Tyr Leu Val Ala Asp Ser Ala Phe Ala Lys Glu Phe  
180 185 190

Asn Phe Asp Val Asn Ala Val Thr Arg Tyr Phe Ala Val Leu Thr Asn  
195 200 205

Ala Ala Asn Leu Arg Tyr Glu Ser Phe Lys Ser Pro Lys Val Gln Leu  
210 215 220

Arg Ile Val Gly Ile Thr Met Asn Lys Asn Pro Ala Asp Glu Pro Tyr  
225 230 235 240

Ile His Asn Ile Arg Gly Tyr Glu Gln Tyr Arg Asn Ile Leu Phe Lys  
245 250 255

Glu Thr Leu Glu Asp Phe Asn Thr Gln Met Lys Ser Lys His Phe Tyr  
260 265 270

Arg Thr Ala Asp Ile Val Phe Leu Val Thr Ala Lys Asn Met Ser Glu  
275 280 285

Trp Val Gly Ser Thr Leu Gln Ser Trp Thr Gly Gly Tyr Ala Tyr Val  
290 295 300

Gly Thr Ala Cys Ser Glu Trp Lys Val Gly Met Cys Glu Asp Arg Pro  
305 310 315 320

Thr Ser Tyr Tyr Gly Ala Tyr Val Phe Ala His Glu Leu Ala His Asn  
325 330 335

Leu Gly Cys Gln His Asp Gly Asp Gly Ala Asn Ser Trp Val Lys Gly  
340 345 350

His Ile Gly Ser Ala Asp Cys Pro Trp Asp Asp Gly Tyr Leu Met Ser  
355 360 365

Tyr Lys Met Glu Asp Glu Arg Gln Tyr Lys Phe Ser Pro Tyr Cys Gln  
 370 375 380

Arg Glu Val Arg Asn Leu Tyr Arg Arg Pro Glu Phe Lys Cys Leu Thr  
385 390 395 400

Glu Arg Lys Ala Lys Lys Thr Ile Arg Ser Ser Lys Leu Pro Gly Val  
405 410 415

Met Thr Ser Ser Ser Asn Tyr Cys Arg Arg Val Tyr Met Tyr Glu Lys  
420 425 430

Gly Met His Ala Asp Glu Ala Tyr Gly Val Lys Asp Cys Arg Val Lys  
435 440 445

Cys Thr Thr Ser Arg Met Tyr Trp Leu Leu Gly Val Val Asp Gly  
450 455 460

Thr Pro Cys Gly Asn Gly Lys Ala Cys Ile Leu Gly Lys Cys Arg Asn  
465 470 475 480

Lys Ile Lys Ile Ser Lys Lys Asp  
485

<210> 19

<211> 158

<212> DNA

<213> *Ixodes ricinus*

<400> 19

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ttcggaaacctt ccactccaac ttggcgagcc gtggattttg acttctcgat atgctccacc 120  
agacagttgc aggacttcag ctgccttagat ggagcctt 158

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<211> 146

<212> DNA

<212> SMI

<220>

<221> misc feature

<222> MISC\_feature

<223> B ≡ A-T-C or G

<400> 20

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tccccccccc ttgacaatcg tccgataaaa accaactata ttcnegtctt tttacaaaca 120  
attccaantq tctqaccgaa ccgcqaa 146

<210> 21

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<213> Ixodes ricinus

<220>  
<221> unsure  
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<223> A,C,T or G

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aatgagttgt caaatgacat 140

<210> 22  
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<212> DNA  
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gttttctgtt tagcacgacg aaggataacg agcctatcga ttactacgtg agagccgaag 120  
atgccgaacg agacatatat cac 143

<210> 23  
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<400> 23  
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atatttaagt gcgttcgtga wagctgtggg cttacgattt caggcgcttc antcaccaggc 120  
tgtgatatta magttccttag 140

<210> 24  
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<212> DNA  
<213> Ixodes ricinus

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tgctaagaac ttcacacttt gcaagaagt w ccaaaatgaa agccgcgatg accgatgatt 120  
tagcttccat cttctatcac ttga 144

<210> 25  
<211> 95  
<212> DNA  
<213> Ixodes ricinus

<400> 25  
gaccaccccg tccgaacctg ctaakcaag caatggagt gagggttcta tgccgggttga 60  
ttacaccaat ggccgtgcgt ggtgcgtggt gattt 95

<210> 26  
<211> 1414  
<212> DNA  
<213> Ixodes ricinus

<220>  
<221> CDS  
<222> (143)..(1273)

<400> 26  
gtagggccgt gcaagcgaag gcagcgaagg ctgcgagtgt acgtgcagtt cggaagtgca 60  
atatacctgtt attaagctct aattagcaca ctgtgagtcg atcagaggcc tctcttaacg 120  
ccacattgaa aaaggatcca ag atg gag gca agt ctg agc aac cac atc ctt 172  
Met Glu Ala Ser Leu Ser Asn His Ile Leu  
1 5 10

aac ttc tcc gtc gac cta tac aag cag ctg aaa ccc tcc ggc aaa gac 220  
Asn Phe Ser Val Asp Leu Tyr Lys Gln Leu Lys Pro Ser Gly Lys Asp  
15 20 25

acg gca gga aac gtc ttc tgc tca cca ttc agt att gca gct gct ctg 268  
Thr Ala Gly Asn Val Phe Cys Ser Pro Phe Ser Ile Ala Ala Leu  
30 35 40

tcc atg gcc ctc gca gga gct aga ggc aac act gcc aag caa atc gct 316  
Ser Met Ala Leu Ala Gly Ala Arg Gly Asn Thr Ala Lys Gln Ile Ala  
45 50 55

gcc atc ctg cac tca aac gac gac aag atc cac gac cac ttc tcc aac 364  
Ala Ile Leu His Ser Asn Asp Asp Lys Ile His Asp His Phe Ser Asn  
60 65 70

ttc ctt tgc aag ctt ccc agt tac gcc cca gat gtg gcc ctg cac atc 412  
Phe Leu Cys Lys Leu Pro Ser Tyr Ala Pro Asp Val Ala Leu His Ile  
75 80 85 90

gcc aat cgc atg tac tct gag cag acc ttc cat ccg aaa gcg gag tac 460  
Ala Asn Arg Met Tyr Ser Glu Gln Thr Phe His Pro Lys Ala Glu Tyr  
95 100 105

aca acc ctg ttg caa aag tcc tac gac agc acc atc aag gct gtt gac 508

Thr	Thr	Leu	Leu	Gln	Lys	Ser	Tyr	Asp	Ser	Thr	Ile	Lys	Ala	Val	Asp	
110																120
ttt gca gga aat gcc gac agg gtc cgt ctg gag gtc aat gcc tgg gtt															556	
Phe	Ala	Gly	Asn	Ala	Asp	Arg	Val	Arg	Leu	Glu	Val	Asn	Ala	Trp	Val	
125																135
gag gaa gtc acc agg tca aag atc agg gac ctg ctc gca cct gga act															604	
Glu	Glu	Val	Thr	Arg	Ser	Lys	Ile	Arg	Asp	Leu	Leu	Ala	Pro	Gly	Thr	
140																150
gtt gat tca tcg aca tca ctt ata tta gtg aat gcc att tac ttc aaa															652	
Val	Asp	Ser	Ser	Thr	Ser	Leu	Ile	Leu	Val	Asn	Ala	Ile	Tyr	Phe	Lys	
155																165
ggt ctg tgg gat tct cag ttc aag cct agt gct acg aag ccg gga gat															700	
Gly	Leu	Trp	Asp	Ser	Gln	Phe	Lys	Pro	Ser	Ala	Thr	Lys	Pro	Gly	Asp	
175																180
ttt cac ttg aca cca cag acc tca aag aaa gtg gac atg atg cac cag															748	
Phe	His	Leu	Thr	Pro	Gln	Thr	Ser	Lys	Lys	Val	Asp	Met	Met	His	Gln	
190.																200
gaa ggg gac ttc aag atg ggt cac tgc agc gac ctc aag gtc act gcg															796	
Glu	Gly	Asp	Phe	Lys	Met	Gly	His	Cys	Ser	Asp	Leu	Lys	Val	Thr	Ala	
205																210
ctt gag ata ccc tac aaa ggc aac aag acg tcg atg gtc att ctc ctg															844	
Leu	Glu	Ile	Pro	Tyr	Lys	Gly	Asn	Lys	Thr	Ser	Met	Val	Ile	Leu	Leu	
220																230
ccc gaa gat gta gag gga ctc tca gtc ctg gag gaa cac ttg acc gct															892	
Pro	Glu	Asp	Val	Glu	Gly	Leu	Ser	Val	Leu	Glu	Glu	His	Leu	Thr	Ala	
235																240
ccg aaa ctg tcg gct ctg ctc ggc ggc atg tat gcg acg tcc gat gtc															940	
Pro	Lys	Leu	Ser	Ala	Leu	Leu	Gly	Gly	Met	Tyr	Ala	Thr	Ser	Asp	Val	
255																260
aac ttg cgc ttg ccg aag ttc aaa cta gag cag tcc ata ggt ttg aag															988	
Asn	Leu	Arg	Leu	Pro	Lys	Phe	Lys	Leu	Glu	Gln	Ser	Ile	Gly	Leu	Lys	
270																275
gat gta ctg atg gcg atg gga gtc aag gat ttc ttc acg tcc ctt gca															1036	
Asp	Val	Leu	Met	Ala	Met	Gly	Val	Lys	Asp	Phe	Phe	Thr	Ser	Leu	Ala	
285																290
gat ctt tct ggc atc agc gct gcg ggg aat ctg tgc gct tcg gat gtc															1084	
Asp	Leu	Ser	Gly	Ile	Ser	Ala	Ala	Gly	Asn	Leu	Cys	Ala	Ser	Asp	Val	
300																310
atc cac aag gct ttt gtg gaa gtt aat gag gag ggc aca gag gct gca															1132	
Ile	His	Lys	Ala	Phe	Val	Glu	Val	Asn	Glu	Glu	Gly	Thr	Glu	Ala	Ala	
315																320
gct gcc act gcc ata ccc att atg ttg atg tgt gcg aga ttt cca cag															1180	
Ala	Ala	Thr	Ala	Ile	Pro	Ile	Met	Leu	Met	Cys	Ala	Arg	Phe	Pro	Gln	

335

340

345

gtg gtg aac ttt ttc gtt gac cgc cca ttc atg ttc ttg atc cac agc 1228  
 Val Val Asn Phe Phe Val Asp Arg Pro Phe Met Phe Leu Ile His Ser  
 350 355 360

cat gat cca gat gtt gtt ctc ttc atg gga tcc atc cgt gag ctc 1273  
 His Asp Pro Asp Val Val Leu Phe Met Gly Ser Ile Arg Glu Leu  
 365 370 375

taaaaagcat attcttaacg gcggccaatc agtctgtgga gttatctttt agtcactaat 1333

gtgtaacaat tctgcaatat tcagcttgat tatttcagta acttgctaga tctttgtgtt 1393

gttgatgtta ggcttcttgc g 1414

<210> 27  
<211> 377  
<212> PRT  
<213> Ixodes ricinus

~~Met~~ Glu Ala Ser Leu Ser Asn His Ile Leu Asn Phe Ser Val Asp Leu  
 1 5 10 15

Tyr Lys Gln Leu Lys Pro Ser Gly Lys Asp Thr Ala Gly Asn Val Phe  
 20 25 30

Cys Ser Pro Phe Ser Ile Ala Ala Leu Ser Met Ala Leu Ala Gly  
 35 40 45

Ala Arg Gly Asn Thr Ala Lys Gln Ile Ala Ala Ile Leu His Ser Asn  
 50 55 60

Asp Asp Lys Ile His Asp His Phe Ser Asn Phe Leu Cys Lys Leu Pro  
 65 70 75 80

Ser Tyr Ala Pro Asp Val Ala Leu His Ile Ala Asn Arg Met Tyr Ser  
 85 90 95

Glu Gln Thr Phe His Pro Lys Ala Glu Tyr Thr Thr Leu Leu Gln Lys  
 100 105 110

Ser Tyr Asp Ser Thr Ile Lys Ala Val Asp Phe Ala Gly Asn Ala Asp  
 115 120 125

Arg Val Arg Leu Glu Val Asn Ala Trp Val Glu Glu Val Thr Arg Ser  
 130 135 140

Lys Ile Arg Asp Leu Leu Ala Pro Gly Thr Val Asp Ser Ser Thr Ser  
 145 150 155 160

Leu Ile Leu Val Asn Ala Ile Tyr Phe Lys Gly Leu Trp Asp Ser Gln  
 165 170 175

Phe Lys Pro Ser Ala Thr Lys Pro Gly Asp Phe His Leu Thr Pro Gln

180

185

190

Thr Ser Lys Lys Val Asp Met Met His Gln Glu Gly Asp Phe Lys Met  
195 200 205

Gly His Cys Ser Asp Leu Lys Val Thr Ala Leu Glu Ile Pro Tyr Lys  
210 215 220

Gly Asn Lys Thr Ser Met Val Ile Leu Leu Pro Glu Asp Val Glu Gly  
225 230 235 240

Leu Ser Val Leu Glu Glu His Leu Thr Ala Pro Lys Leu Ser Ala Leu  
245 250 255

Leu Gly Gly Met Tyr Ala Thr Ser Asp Val Asn Leu Arg Leu Pro Lys  
260 265 270

Phe Lys Leu Glu Gln Ser Ile Gly Leu Lys Asp Val Leu Met Ala Met  
275 280 285

Gly Val Lys Asp Phe Phe Thr Ser Leu Ala Asp Leu Ser Gly Ile Ser  
290 295 300

Ala Ala Gly Asn Leu Cys Ala Ser Asp Val Ile His Lys Ala Phe Val  
305 310 315 320

Glu Val Asn Glu Glu Gly Thr Glu Ala Ala Ala Thr Ala Ile Pro  
325 330 335

Ile Met Leu Met Cys Ala Arg Phe Pro Gln Val Val Asn Phe Phe Val  
340 345 350

Asp Arg Pro Phe Met Phe Leu Ile His Ser His Asp Pro Asp Val Val  
355 360 365

Leu Phe Met Gly Ser Ile Arg Glu Leu  
370 375

<210> 28

<211> 200

<212> DNA

<213> Ixodes ricinus

<400> 28

accgtaacca aaattgttcc tttccagaag aatggttcaa actttcaaa cagatttcgg 60  
aaactcttct tgcactttta aaatccaatc tacaatcttt cctcgcactt ctgaattgca 120  
ttccagttta ctttccaagc aaacctcttt tggcaactcc agccgtactc catttcggca 180  
taccacagtg catgcacttg 200

<210> 29

<211> 241

<212> DNA

<213> Ixodes ricinus

<400> 29  
cgattctt gaagatttgt atacgaaaca taaattcgta atgcataactt ttgatggta 60  
cacacatgc gaagctgccg acaaagaaga ctggaaagat aagaaggcacc tagttacgg 120  
agtgcgtgga ccggataaac gaaagtacac gtttctacgc aacattctca ctttacaacg 180  
gagagtgaga gtagcaaaa caatgattga gctcgatcg aacatgtcct gtaggacatt 240  
t 241

<210> 30  
<211> 313  
<212> DNA  
<213> Ixodes ricinus

<220>  
<221> misc\_feature  
<222> (1)...(313)  
<223> n = A,T,C or G

<400> 30  
aagccccc actacctgct tgaaaacgtt gtacggcaaa acttggacgg aaaactccca 60  
gtatctactc cagttccctcc cgaaagctac acgtacgctg agaatgataa cttcacctgc 120  
tattccagaa gtacaccgtt tccggatggg gtgaatgtt tataacggct gctgggtgcg 180  
gaagactatg atggattacg caaaaaagtt ctaaacgagt tgtttcccat cccggaaagt 240  
ctgctgtatg ctgacatgtat gcgacttgcg gctaagaaag acagagttga tcacactagt 300  
ggatgacatcg gga 313

<210> 31  
<211> 2417  
<212> DNA  
<213> Ixodes ricinus

<220>  
<221> CDS  
<222> (218)..(1492)

<400> 31  
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tctgcagtcg ttccacaaca tgtggataca gctccggaga tttgtaaaca aatactgcac 120  
ttttaagcaa gacttgatat ttagatcgat atcctcctgt tgcgtctt gattaatcgg 180  
ctcttaggg ttttagaat aggctttcg gtacgag atg ccc aaa gga aag agg 235  
Met Pro Lys Gly Lys Arg  
1 5

gga ccc aaa gca ggt ggc gcc gcg cgc ggt ggc cgg tgc gag gcc agc 283  
Gly Pro Lys Ala Gly Gly Ala Ala Arg Gly Gly Arg Cys Glu Ala Ser  
10 15 20

ctg gct ccg tcg tcc agc gac gag gag tcc aac gca gac acg gcg agc 331  
Leu Ala Pro Ser Ser Asp Glu Glu Ser Asn Ala Asp Thr Ala Ser  
25 30 35

gtg ctg agc tgc gcc tcg gag tct cgc tgc agt gac ggc acc gtt 379  
Val Leu Ser Cys Ala Ser Glu Ser Arg Cys Gly Ser Asp Gly Thr Val

40

45

50

gga gac cca gaa gcg gag gag gct gtg ctg cat gac gac ttt gaa gac 427  
 Gly Asp Pro Glu Ala Glu Glu Ala Val Leu His Asp Asp Phe Glu Asp  
 55 60 65 70

aaa ctc aag gag gcc atc gac gga gct tcg cag aag agt gcc aaa gga 475  
 Lys Leu Lys Glu Ala Ile Asp Gly Ala Ser Gln Lys Ser Ala Lys Gly  
 75 80 85

cgg ctg tcg tgc ctg gag gcg att cgc aag gcc ttt tcc acc aaa tac 523  
 Arg Leu Ser Cys Leu Glu Ala Ile Arg Lys Ala Phe Ser Thr Lys Tyr  
 90 95 100

ctg tac gac ttc ctc atg gac aga ccg agc acg gtg tgc gac ctg gtg 571  
 Leu Tyr Asp Phe Leu Met Asp Arg Pro Ser Thr Val Cys Asp Leu Val  
 105 110 115

gag cgt ggg gtg cgc aag ggc cga ggg gag gag gcg gcc ctg tgc gcc 619  
 Glu Arg Gly Val Arg Lys Gly Arg Gly Glu Ala Ala Leu Cys Ala  
 120 125 130

act ctc ggg gcc ctg gcc tgc gtc cag ctc ggg gtc ggg gcc gag gcg 667  
 Thr Leu Gly Ala Leu Ala Cys Val Gln Leu Gly Val Gly Ala Glu Ala  
 135 140 145 150

gac gcc ctg ttc gac gcc ctg cgc cag ccg ctc tgc act ttg ctg ctt 715  
 Asp Ala Leu Phe Asp Ala Leu Arg Gln Pro Leu Cys Thr Leu Leu  
 155 160 165

gac ggg gcc cag ggg ccc tcc ccc agg gcc agg tgt gcc act gcc ctc 763  
 Asp Gly Ala Gln Gly Pro Ser Pro Arg Ala Arg Cys Ala Thr Ala Leu  
 170 175 180

ggc ctc tgc tgc ttc gtg gac tcg gac aac cag ctg gtg ctg cag 811  
 Gly Leu Cys Cys Phe Val Val Asp Ser Asp Asn Gln Leu Val Leu Gln  
 185 190 195

ccg tgc atg gag gtg ctc tgg cag gtg gtg ggt gcc aag gcg ggc ccc 859  
 Pro Cys Met Glu Val Leu Trp Gln Val Val Gly Ala Lys Ala Gly Pro  
 200 205 210

ggc tct ccg gtg ctc cag gca gcg gcc ctg ctc gcc tgg ggc ctc ctg 907  
 Gly Ser Pro Val Leu Gln Ala Ala Leu Leu Ala Trp Gly Leu Leu  
 215 220 225 230

ctc agc gtg gct ccc gtc gac cgc ctg ctg gcg ctc acg cgc acg cac 955  
 Leu Ser Val Ala Pro Val Asp Arg Leu Leu Ala Leu Thr Arg Thr His  
 235 240 245

ctg ccc cgg ctg cag gag ctg ctg gag agc ccc gac ctg gac ctg cgc 1003  
 Leu Pro Arg Leu Gln Glu Leu Leu Glu Ser Pro Asp Leu Asp Leu Arg  
 250 255 260

att gcg gcc ggg gag gtg atc gcc gtc atg tac gag ggg gcc agg gac 1051  
 Ile Ala Ala Gly Glu Val Ile Ala Val Met Tyr Glu Gly Ala Arg Asp  
 265 270 275

tac gac gag gac ttt gag gag ccc tcg gag tcc ctg tgt gcc cag ctg		1099	
Tyr Asp Glu Asp Phe Glu Glu Pro Ser Glu Ser Leu Cys Ala Gln Leu			
280	285	290	
cgc cag ctg gcc acg gac agc cag aag ttt cg <sup>g</sup> gcc aag aag gag cg <sup>g</sup>		1147	
Arg Gln Leu Ala Thr Asp Ser Gln Lys Phe Arg Ala Lys Lys Glu Arg			
295	300	305	310
cgc cag cag cgc tcc acc ttc agg gac gtc tac cgg gcc gtc agg gag		1195	
Arg Gln Gln Arg Ser Thr Phe Arg Asp Val Tyr Arg Ala Val Arg Glu			
315	320	325	
ggg gcc tct ccc gac gt <sup>g</sup> agc gtc aag ttt ggc cgg gaa gtc ctg gaa		1243	
Gly Ala Ser Pro Asp Val Ser Val Lys Phe Gly Arg Glu Val Leu Glu			
330	335	340	
ctg gac acc tgg agt cgc aag ctg cag tac gac gct ttc tgc cag ctg		1291	
Leu Asp Thr Trp Ser Arg Lys Leu Gln Tyr Asp Ala Phe Cys Gln Leu			
345	350	355	
ctg ggc tcc ggc atg aac ctg cac ctg gcc gt <sup>g</sup> aac gag ctg ctg agg		1339	
Leu Gly Ser Gly Met Asn Leu His Leu Ala Val Asn Glu Leu Leu Arg			
360	365	370	
gac atc ttt gaa ctg ggg cag gt <sup>g</sup> ctg gca acc gag gac cac att atc		1387	
Asp Ile Phe Glu Leu Gly Gln Val Leu Ala Thr Glu Asp His Ile Ile			
375	380	385	390
tcc aag atc acc aag ttc gaa agg cac atg gt <sup>g</sup> aac atg gcc agc tgc		1435	
Ser Lys Ile Thr Lys Phe Glu Arg His Met Val Asn Met Ala Ser Cys			
395	400	405	
cgg gcc cgc acc aag aca cgc aac cgg ctg agg gac aag cgc gcc gac		1483	
Arg Ala Arg Thr Lys Thr Arg Asn Arg Leu Arg Asp Lys Arg Ala Asp			
410	415	420	
gt <sup>g</sup> gtc gcc tgaacctcg <sup>g</sup> gagggatgct tagctatgca ctgcggcgcc		1532	
Val Val Ala			
425			
taccctggcg ggactcgatg ccactcacga gtcggcgctc gcaaattcgc cgcccatcgt		1592	
tacgcaatgg gagacaaagc tgctttggc attaccgttt gaggtcg <sup>g</sup> ctaaccata		1652	
gatgaatttc tttttgtgg ccgtttctgg gttacatgtt ttggggaaag ggagtggAAC		1712	
tgtccggttc tttggcacac gtcagg <sup>g</sup> tgc tttgatgcg cgacgtgctt gtat <sup>tt</sup> gggt		1772	
actgccaca ccaagcg <sup>ttt</sup> cggcgattcc tggaaaagag tgcctctcg <sup>c</sup> tcgacgtttg		1832	
gttgtttct gcgtggtccg tcgtcgac <sup>c</sup> tgc ttcgtcc aaagacgccc tccggttca		1892	
tactcccccc cgcacacata tcgaggccaa ttaaattgct aagggtgccc ttgtcgtgca		1952	
tctggcaggc tcagaagtgg cttat <sup>tt</sup> gtc ttttaatttt gccgatgcac gcaaaaattg		2012	

tcatttcttg aaagtttctc ttttattgct tacacaattc aactttatg taatttctga 2072  
tggctgttt tacgtgtgcg tgtgtaaaac gtaactttgg aagaatttt atgcacactg 2132  
aacaaacgct cggccctggg gttgaaagtg ctgggtgtgt gcatgagcta aagtgcact 2192  
gcttggtcc gaagggtttc tagtcgccga aatgtaccat tgtggacctt gttgcgagag 2252  
accttggtct tctgggggag ctgctgtacg gtggcaagcc actatggg gagcgacatt 2312  
gcagagaaaa tcggctttt aaaaaggcacc tgccggcga gtggacgttt ttctgtatat 2372  
actgcgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 2417

<210> 32  
<211> 425  
<212> PRT  
<213> Ixodes ricinus

<400> 32  
Met Pro Lys Gly Lys Arg Gly Pro Lys Ala Gly Gly Ala Ala Arg Gly  
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Gly Arg Cys Glu Ala Ser Leu Ala Pro Ser Ser Ser Asp Glu Glu Ser  
20 25 30  
Asn Ala Asp Thr Ala Ser Val Leu Ser Cys Ala Ser Glu Ser Arg Cys  
35 40 45  
Gly Ser Asp Gly Thr Val Gly Asp Pro Glu Ala Glu Glu Ala Val Leu  
50 55 60  
His Asp Asp Phe Glu Asp Lys Leu Lys Glu Ala Ile Asp Gly Ala Ser  
65 70 75 80  
Gln Lys Ser Ala Lys Gly Arg Leu Ser Cys Leu Glu Ala Ile Arg Lys  
85 90 95  
Ala Phe Ser Thr Lys Tyr Leu Tyr Asp Phe Leu Met Asp Arg Pro Ser  
100 105 110  
Thr Val Cys Asp Leu Val Glu Arg Gly Val Arg Lys Gly Arg Gly Glu  
115 120 125  
Glu Ala Ala Leu Cys Ala Thr Leu Gly Ala Leu Ala Cys Val Gln Leu  
130 135 140  
Gly Val Gly Ala Glu Ala Asp Ala Leu Phe Asp Ala Leu Arg Gln Pro  
145 150 155 160  
Leu Cys Thr Leu Leu Asp Gly Ala Gln Gly Pro Ser Pro Arg Ala  
165 170 175  
Arg Cys Ala Thr Ala Leu Gly Leu Cys Cys Phe Val Val Asp Ser Asp  
180 185 190

Asn Gln Leu Val Leu Gln Pro Cys Met Glu Val	Leu Trp Gln Val Val		
195	200	205	
Gly Ala Lys Ala Gly Pro Gly Ser Pro Val	Leu Gln Ala Ala Ala Leu		
210	215	220	
Leu Ala Trp Gly Leu Leu Leu Ser Val Ala	Pro Val Asp Arg Leu Leu		
225	230	235	240
Ala Leu Thr Arg Thr His Leu Pro Arg Leu	Gln Glu Leu Leu Glu Ser		
245	250	.	255
Pro Asp Leu Asp Leu Arg Ile Ala Ala	Gly Glu Val Ile Ala Val Met		
260	265	270	
Tyr Glu Gly Ala Arg Asp Tyr Asp Glu Asp Phe	Glu Pro Ser Glu		
275	280	285	
Ser Leu Cys Ala Gln Leu Arg Gln Leu Ala Thr	Asp Ser Gln Lys Phe		
290	295	300	
Arg Ala Lys Lys Glu Arg Arg Gln Gln Arg Ser	Thr Phe Arg Asp Val		
305	310	315	320
Tyr Arg Ala Val Arg Glu Gly Ala Ser Pro	Asp Val Ser Val Lys Phe		
325	330	335	
Gly Arg Glu Val Leu Glu Leu Asp Thr Trp Ser	Arg Lys Leu Gln Tyr		
340	345	350	
Asp Ala Phe Cys Gln Leu Leu Gly Ser Gly Met	Asn Leu His Leu Ala		
355	360	365	
Val Asn Glu Leu Leu Arg Asp Ile Phe Glu Leu	Gly Gln Val Leu Ala		
370	375	380	
Thr Glu Asp His Ile Ile Ser Lys Ile Thr Lys	Phe Glu Arg His Met		
385	390	395	400
Val Asn Met Ala Ser Cys Arg Ala Arg Thr	Lys Thr Arg Asn Arg Leu		
405	410	415	
Arg Asp Lys Arg Ala Asp Val Val Ala			
420	425		

<210> 33  
<211> 933  
<212> DNA  
<213> Ixodes ricinus

<220>  
<221> CDS  
<222> (32)..(850)

<400> 33

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				Met	Ala	Gly	Leu	Arg	Ser	Cys						
				1				5								
atc	ctc	ctg	gct	ctt	gcc	act	agt	gcc	ttc	gcc	gac		100			
Ile	Leu	Leu	Ala	Leu	Ala	Thr	Ser	Ala	Phe	Ala	Gly	Tyr	Leu	His	Gly	
10						15				20						
ggc	ctt	acc	cac	ggc	gct	ggg	tac	ggt	tac	ggt	gtc	ggc	tac	ggt	tcc	148
Gly	Leu	Thr	His	Gly	Ala	Gly	Tyr	Gly	Tyr	Gly	Val	Gly	Tyr	Gly	Ser	
25						30				35						
ggc	ctt	ggc	tat	ggc	ctt	ggc	tac	ggt	tcc	ggc	tat	gga	cat		196	
Gly	Leu	Gly	Tyr	Gly	Leu	Gly	Tyr	Gly	Ser	Gly	Leu	Gly	Tyr	Gly	His	
40						45				50		55				
gct	gtt	ggc	ctt	gga	cac	ggc	ttt	ggc	tat	tct	ggt	ctg	acc	ggc	tac	244
Ala	Val	Gly	Leu	Gly	His	Gly	Phe	Gly	Tyr	Ser	Gly	Leu	Thr	Gly	Tyr	
60						65				70						
agt	gtg	gct	gcc	cca	gct	agc	tac	gcc	gtt	gct	gct	cca	gcc	gtc	agc	292
Ser	Val	Ala	Ala	Pro	Ala	Ser	Tyr	Ala	Val	Ala	Ala	Pro	Ala	Val	Ser	
75						80				85						
cgc	acc	gtt	tcc	act	tac	cac	gct	gct	cca	gct	gtg	gcc	acc	tac	gcc	340
Arg	Thr	Val	Ser	Thr	Tyr	His	Ala	Ala	Pro	Ala	Val	Ala	Thr	Tyr	Ala	
90						95				100						
gct	gct	cct	gtc	gcc	acc	tat	gct	gtt	gct	cca	gct	gtc	act	agg	gtt	388
Ala	Ala	Pro	Val	Ala	Thr	Tyr	Ala	Val	Ala	Pro	Ala	Val	Thr	Arg	Val	
105						110				115						
tcc	ccc	gtt	cgc	gcc	gcc	cca	gct	gtg	gcc	acg	tac	gcc	gcc	gct	cca	436
Ser	Pro	Val	Arg	Ala	Ala	Pro	Ala	Val	Ala	Thr	Tyr	Ala	Ala	Pro		
120						125				130		135				
gtc	gcc	acc	tac	gcc	gct	gct	cca	gct	gtg	acc	agg	gtg	tcc	acc	att	484
Val	Ala	Thr	Tyr	Ala	Ala	Ala	Pro	Ala	Val	Thr	Arg	Val	Ser	Thr	Ile	
140						145				150						
cac	gct	gcc	ccg	gct	gtg	gcc	aat	tac	gcc	gtc	gct	cca	gtc	gcc	acc	532
His	Ala	Ala	Pro	Ala	Val	Ala	Asn	Tyr	Ala	Val	Ala	Pro	Val	Ala	Thr	
155						160				165						
tat	gcc	gct	cca	gct	gtg	acc	agg	gtg	tcc	acc	atc	cac	gcc	gct		580
Tyr	Ala	Ala	Ala	Pro	Ala	Val	Thr	Arg	Val	Ser	Thr	Ile	His	Ala	Ala	
170						175				180						
cca	gcc	gtg	gct	agc	tac	cag	acc	tac	cac	gct	cca	gct	gtc	gcc	act	628
Pro	Ala	Val	Ala	Ser	Tyr	Gln	Thr	Tyr	His	Ala	Pro	Ala	Val	Ala	Thr	
185						190				195						
gtg	gct	cat	gct	gtg	gcc	agc	tac	cag	acc	tac	cac	gct	gcc		676	
Val	Ala	His	Ala	Pro	Ala	Val	Ala	Ser	Tyr	Gln	Thr	Tyr	His	Ala	Ala	
200						205				210		215				
cca	gcc	gtg	gct	acc	tac	gcc	cat	gcc	gct	ccc	gtc	tac	ggc	tat	ggt	724

Pro Ala Val Ala Thr Tyr Ala His Ala Ala Pro Val	Tyr Gly Tyr Gly	
220	225	230
gtc ggt acc ctc gga tat ggt gtc ggc cac tac ggc tac gga cac ggt		772
Val Gly Thr Leu Gly Tyr Gly Val Gly His Tyr Gly Tyr Gly His Gly		
235	240	245
ctt ggc agc tac ggc ctg aac tac ggt tac ggc ctc ggc acc tac ggt		820
Leu Gly Ser Tyr Gly Leu Asn Tyr Gly Tyr Gly Leu Gly Thr Tyr Gly		
250	255	260
gac tac acc acc ctt ctc cgc aag aag aag taaatggcac atctcaagag		870
Asp Tyr Thr Thr Leu Leu Arg Lys Lys Lys		
265	270	
agcccatgg actgccatcg acattcttct tcaataaaag agcccagaaga tggcattatt		930
ttt		933

<210> 34			
<211> 273			
<212> PRT			
<213> Ixodes ricinus			
<400> 34			
Met Ala Gly Leu Arg Ser Cys Ile Leu Leu Ala Leu Ala Thr Ser Ala			
1	5	10	15
Phe Ala Gly Tyr Leu His Gly Gly Leu Thr His Gly Ala Gly Tyr Gly			
20	25	30	
Tyr Gly Val Gly Tyr Gly Ser Gly Leu Gly Tyr Gly Leu Gly Tyr Gly			
35	40	45	
Ser Gly Leu Gly Tyr Gly His Ala Val Gly Leu Gly His Gly Phe Gly			
50	55	60	
Tyr Ser Gly Leu Thr Gly Tyr Ser Val Ala Ala Pro Ala Ser Tyr Ala			
65	70	75	80
Val Ala Ala Pro Ala Val Ser Arg Thr Val Ser Thr Tyr His Ala Ala			
85	90	95	
Pro Ala Val Ala Thr Tyr Ala Ala Ala Pro Val Ala Thr Tyr Ala Val			
100	105	110	
Ala Pro Ala Val Thr Arg Val Ser Pro Val Arg Ala Ala Pro Ala Val			
115	120	125	
Ala Thr Tyr Ala Ala Ala Pro Val Ala Thr Tyr Ala Ala Ala Pro Ala			
130	135	140	
Val Thr Arg Val Ser Thr Ile His Ala Ala Pro Ala Val Ala Asn Tyr			
145	150	155	160
Ala Val Ala Pro Val Ala Thr Tyr Ala Ala Ala Pro Ala Val Thr Arg			

165

170

175

Val Ser Thr Ile His Ala Ala Pro Ala Val Ala Ser Tyr Gln Thr Tyr  
180 185 190

His Ala Pro Ala Val Ala Thr Val Ala His Ala Pro Ala Val Ala Ser  
195 200 205

Tyr Gln Thr Tyr His Ala Ala Pro Ala Val Ala Thr Tyr Ala His Ala  
210 215 220

Ala Pro Val Tyr Gly Tyr Gly Val Gly Thr Leu Gly Tyr Gly Val Gly  
225 230 235 240

His Tyr Gly Tyr Gly His Gly Leu Gly Ser Tyr Gly Leu Asn Tyr Gly  
245 250 255

Tyr Gly Leu Gly Thr Tyr Gly Asp Tyr Thr Thr Leu Leu Arg Lys Lys  
260 265 270

Lys

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